

CLIMATOLOGICAL DATA FOR AUGUST, 1913.

DISTRICT NO. 4, THE LAKE REGION.

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GENERAL SUMMARY.

In the Lake region the month of August, 1913, was, as a whole, warmer than usual, although in the extreme eastern sections the temperature averages were nearly normal. Drought continued over the New York and Vermont portions until the closing days of the month, and conditions there were generally worse for want of water in the soil than at any previous time within the last 20 years. Springs and streams became very low, the Genesee reaching the lowest level of many years. Wells and creeks of considerable size dried up, and the feeding of stock was necessitated owing to the shortage of pasture. In other sections of the district, however, while deficiency of rainfall was widespread, the precipitation was so distributed in point of time, and was of sufficient amount, to carry most outstanding crops through the period, although it is likely that in many localities the yield will be materially lessened. There was an unusually large number of warm, clear days, and sunshine was generally in excess of the normal for the month, these conditions promoting evaporation to a marked extent. As a consequence, rain was much needed at the close of the period, even in the regions which had received amounts equaling or exceeding the average.

The following table summarizes the chief features of meteorological interest in the various portions of the district:

Portions of States.	Mean temperature.	Departure from normal.	Mean daily range.	Mean precipitation.	Departure from normal.	Greatest precipitation in 24 hours.	Mean snowfall.	Number of days —			Prevailing wind direction.
								With 0.01 or more precipitation.	Clear.	Partly cloudy.	
Minnesota.....	63.6	+0.9	16.5	1.82	-2.03	0.86	0	9	11	13	7 nw.
Wisconsin.....	67.8	+1.1	16.2	1.98	-1.15	2.30	0	8	14	12	5 se.
Illinois.....	74.3	+3.1	13.0	4.06	+1.18	1.38	0	11	12	13	6 ne.
Indiana.....	73.2	+2.2	20.1	2.98	0.00	2.55	0	7	16	9	6 sw.
Upper Michigan.....	64.4	+1.3	16.9	2.18	-0.63	1.74	0	8	15	9	7 w.
Lower Michigan.....	69.8	+2.0	19.0	2.50	-0.02	6.81	0	7	14	11	6 sw.
Ohio.....	72.9	+2.2	17.0	2.62	-0.37	3.47	0	6	17	10	4 sw.
Pennsylvania.....	69.8	-0.1	14.6	2.66	-0.60	1.16	0	9	14	11	6 s.
New York.....	66.7	+0.3	19.3	2.35	-0.68	3.00	0	9	16	10	5 w.
Vermont.....	65.3	0.0	24.6	1.46	-2.71	0.55	0	7	13	13	5 s.

TEMPERATURE.

The mean temperature was above normal in all sections except the Champlain Valley, the departure ranging from practically zero in that region to between +2° and +3° over the portions of the district lying in Ohio, lower Michigan,

gan, Indiana, and Illinois, where the two summer months preceding were also warmer than usual.

Pronouncedly warm periods were those of the 8th and 9th and 14th to the 21st, the latter being marked by temperatures of over 90° throughout practically the whole district, while 100° to 102° was reached in the southwestern sections. During this time previous August records for high temperatures were equaled or exceeded in several localities, and many prostrations due to heat occurred, especially in the larger cities. The coldest weather of the month occurred generally from the 23d to 26th. On the last day of this period temperatures in the elevated sections of New York and Vermont fell to readings near the freezing point, and frosts were reported from a few stations. At Northfield, Vt., on the 26th, frost did considerable damage to corn and vining plants. Temperatures on the 4th and 6th and 10th to 12th were also below the daily normals throughout the Lake region.

PRECIPITATION.

While average values show a deficiency over the district, except in the Illinois and Indiana sections, the amounts for the month were above normal generally in the central and southeastern counties of lower Michigan, and in northwestern Ohio. Precipitation over the western half of the district was for the most part well distributed throughout the month; but in the eastern sections the 11th to the 21st was practically a rainless period, and by far the greater proportion of the monthly amounts in that region occurred in the last decade.

Thunderstorms were much more frequent than is usual for August. At many stations from one-fourth to one-half the total rainfall occurred in one or two heavy storms of this character, the 24 hour measurements ranging from 2 to 6.81 inches. At Berne, Ind., 2.55 inches fell in 30 minutes on the 16th; and at Ottawa, Ohio, 2.28 inches fell in 40 minutes on the 21st. These storms occasioned considerable damage in localities, especially in the Indiana, Michigan, and Ohio sections of the district. Basements were flooded by the heavy downpours; buildings, trees and poles were destroyed by lightning or fires resulting from lightning, and communication was interrupted locally; and high winds leveled much corn in the field.

MISCELLANEOUS.

Dense fog.—Dense fog was reported from only a few stations during the month, chiefly from those on Lake Superior. However, the only interference to vessel operations occasioned by fog occurred at but one place, Duluth, Minn., on the 13th and 14th, and the conditions then were not serious.

Light smoke from forest fires was observed at Sault Ste. Marie, Mich., on the 20th and 21st, and at Green Bay, Wis., on the 19th to the 21st.

A mirage was noted at Alpena, Mich., on the 11th.

ERRATA.

The following corrections should be made in Table I—Climatological data for July, 1913:

The number of days with 0.01 inch or more precipitation at Kewaunee, Wis., should be 10 instead of 9; at Waupaca, Wis., the number should be 14 instead of 13. The lowest temperature recorded at Watertown, N. Y., for the month should be 48° on the 11th, instead of 51° on the 12th.

AUGUST LAKE LEVELS.

The following data are from the report of the United States Lake Survey:

	Lake Superior.	Lakes Michigan and Huron.	Lake Erie.	Lake Huron.
Above tidewater at New York.....	Feet. 602.74	Feet. 581.24	Feet. 573.24	Feet. 247.31
Above or below:				
Stage of July, 1913.....	+0.17	-0.02	-0.34	-0.52
Stage of August, 1912.....	+0.21	+0.66	+0.75	+0.65
Mean stage of August last 10 years.....	+0.03	+0.22	+0.58	+0.61
Highest recorded stage.....	-1.19	-2.27	-0.87	-0.95
Lowest recorded stage.....	+1.14	+1.39	+1.86	+2.96
Probable change during September.....	+0.10	-0.10	-0.20	-0.40

TABLE 1.—Climatological data for August, 1913. District No. 4, Lake Region.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.							Precipitation, in inches.							Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
<i>Minnesota.</i>																			
Cloquet.....	Carlton.....	800	2	63.4	-2.7	93	15	36	30	39	1.65	-2.27	0.52	0	12	5	21	5	se.
Duluth.....	St. Louis.....	1,133	42	62.2	-2.7	84	2	48	7	31	1.26	-2.27	0.29	0	15	2	14	15	ne.
Floodwood.....	do.....	1,257	6																U. S. Weather Bureau.
Grand Marais.....	Cook.....	61.5				86	28	41	10†	42	2.30		0.76	0	6	13	12	6	w.
Stephens Mine.....	St. Louis.....	1,500	6	64.2	+1.3	91	15	34	30	39	2.00		0.80	0	4	23	5	3	ne.
Two Harbors.....	Lake.....	614	19	64.4	+1.3	86	2†	45	4	39	0.57	-3.10	0.25	0	5	4	17	10	se.
Virginia.....	St. Louis.....	1,434	19	66.2	+4.1	92	15	39	30	37	3.14	-0.73	0.86	0	11	19	7	5	Oliver Iron Mining Co.
<i>Wisconsin.</i>																			G. W. Watts.
Appleton.....	Outagamie.....	795	12	72.4	+4.2	96	14†	50	23	36	1.62	-1.25	0.75	0	10	17	11	3	se.
Ashland.....	Ashland.....	615	22	64.8	-2.3	97	15	40	11	46	1.39	-2.00	0.33	0	11	14	12	5	sw.
Bayfield.....	Bayfield.....	635	4	65.8	-0.6	88	15	50	4†	31	2.06	-0.81	0.90	0	9	15	13	3	ne.
Cecil.....	Shawano.....	804	15	67.6	+1.0	90	15†	43	11†	44	0.53	-2.10	0.28	0	6	11	20	0	se.
Cornucopia.....	Bayfield.....	640	1	62.5		82	2	45	7	29	2.63		1.40	0	10	8	19	4	ne.
Crandon.....	Forest.....	1,060	18	65.2	+1.8	88	15	43	30†	32	2.46	-0.40	1.77	0	6	17	11	3	sw.
Florence.....	Fond du Lac.....	1,293	22	65.0	+1.8	91	15	39	11†	39	2.29	-1.14	1.18	0	4	22	3	6	se.
Fond du Lac.....	Fond du Lac.....	800	27	69.9	+2.1	97	16	46	23	39	2.66	-0.66	1.10	0	10	20	8	3	n.
Grand River Locks.....	Marquette.....	770	17	70.1		95	16	43	23	37	1.46	-2.70	0.42	0	9	21	4	6	se.
Green Bay.....	Brown.....	617	27	68.4	+1.4	90	15	51	25	31	1.01	-2.09	0.85	0	8	5	17	9	ne.
High Falls.....	Marinette.....	1,125	4	66.9		92	15	38	27	44	1.86		0.45	0	6	17	13	1	se.
Iron River.....	Bayfield.....	1,006	4	64.9		96	15	41	7	37	2.72		0.80	0	9	20	5	6	se.
Keweenaw.....	Keweenaw.....	590	4	67.4		90	21	49	30†	32	1.49		1.36	0	6	10	5	12	s.
Manitowoc.....	Manitowoc.....	616	62	67.8	+1.4	91	16	50	23†	29	1.60	-1.42	1.09	0	9	5	15	11	se.
Menasha.....	Winnebago.....	764	16								2.14	-0.43	1.60	0	5	25	5	1	Geo. T. Allanson.
Menomonee Falls.....	Waukesha.....	842	4	69.4		97	16	47	23†	39	2.84		1.12	0	8	19	9	3	ne.
Milwaukee.....	Milwaukee.....	681	43	71.0	+2.3	92	16	56	23	24	1.64	-1.18	0.76	0	10	6	18	7	U. S. Weather Bureau.
New London.....	Outagamie.....	762	17	67.9	0.0	89	14†	46	23	36	3.51	+0.27	1.75	0	5	15	11	5	sw.
Oconto.....	Oconto.....	590	22	67.4	+0.3	92	15	45	11†	35	0.73	-0.28	0.65	0	3	19	8	4	e.
Oshkosh.....	Winnebago.....	744	24	68.9	+0.3	91	16	45	23	33	3.10	+0.11	2.30	0	4	16	15	0	ne.
Pine River.....	Waushara.....	900	18	68.8	+0.8	91	16	46	23	32	1.46	-1.72	0.43	0	10	8	20	3	se.
Plum Island.....	Door.....	588	5	67.6		89	21	52	24	29	1.22		0.80	0	7	14	6	11	sw.
Plymouth.....	Sheboygan.....	843	3	69.0*	95*	16	47*	25	34*	3.10		1.60		0	11	12	11	8	e.
Port Washington.....	Ozaukee.....	713	20	68.7	+1.0	91	21	50	23†	30	3.31	+0.26	1.90	0	8	10	12	9	se.
Racine.....	Racine.....	633	16	72.8	+2.3	96	8	56	23	30	1.59	-1.48	0.83	0	8	15	9	7	s.
Ripon.....	Fond du Lac.....	1,031	3	73.1		95	15†	50	23	35	1.34		0.48	0	9	10	6	15	w.
Sheboygan.....	Sheboygan.....	831	14	70.4	+1.7	93	16	48	22	37	3.18	-0.24	1.38	0	9	11	7	22	ne.
Sturgeon Bay.....	Door.....	600	14	66.0	+0.3	96	16	44	5	35	0.84		0.38	0	5	12	10	7	ne.
Superior.....	Douglas.....	701	4	62.6		90	2	47	30	31	1.31		0.25	0	12	10	14	7	ne.
Waupaca.....	Waupaca.....	857	18	68.2	+0.4	94	15	43	23	38	1.78	-1.75	0.97	0	12	12	12	7	sw.
<i>Illinois.</i>																			James H. Flagg.
Chicago.....	Cook.....	823	43	74.3	+3.1	97	9	60	30	25	4.06	+1.18	1.38	0	11	12	13	6	ne.
<i>Indiana.</i>																			U. S. Weather Bureau.
Auburn.....	Dekalb.....	874	17	71.8	+1.5	98	7	45	30	44	3.74	+0.52	1.94	0	5	18	6	7	sw.
Berne.....	Adams.....	849	4	73.9		96	16	48	30	34	4.70		2.55	0	10	18	12	1	sw.
Fort Wayne.....	Allen.....	856	17	73.0	+1.9	94	16	51	25	30	3.06	-0.23	1.43	0	7	19	9	3	sw.
Hammond.....	Lake.....	598	22	74.8	+3.1	102	16	45	30	44	1.97	-0.28	1.06	0	6	13	13	5	sw.
Howe.....	Lagrange.....	886	8	72.3		98	16†	45	25	40	1.76		1.10	0	5	21	0	10	A. A. Wade.
Notre Dame.....	St. Joseph.....	712	4	72.4		96	16	48	25	33	3.67		2.15	0	8	6	16	5	ne.
Whiting.....	Lake.....	1,006	4	74.6		99	16†	54	25†	34	1.96		1.06	0	7	17	9	5	D. H. Boyd.
<i>Michigan—Upper Peninsula.</i>																			Mrs. Josie B. Kuhlman.
Baraga.....	Baraga.....	623	11								1.50	-0.85	0.50	0	8	9	1	21	sw.
Bergland.....	Ontonagon.....	1,300	3	64.6		98	16	36	11	38	1.19		0.35	0	4	15	3	13	sw.
Calumet.....	Houghton.....	1,246	25	82.7	+0.3	90	15	40	20	34	4.24	+1.44	1.50	0	9	20	6	5	sw.
Chatham.....	Alger.....	875	12	60.9	-0.4	90	20†	30	25	46	1.28	-1.91	0.68	0	3	14	13	4	sw.
Deer Park.....	Luce.....	610	12	66.3	+3.9	98	15	38	25	38	1.50	-1.23	0.80	0	3	17	3	11	sw.
Eagle Harbor.....	Keweenaw.....	622	14	59.6	-2.1	92	15	41	7†	36	2.37	-0.45	1.20	0	5	21	0	10	U. S. Weather Bureau.
Escanaba.....	Delta.....	612	40	64.4	-0.1	86	21	45	23	27	1.48	-2.15	0.43	0	10	11	12	3	sw.
Ewen.....	Ontonagon.....	1,147	12								2.75	+0.35	0.80	0	14	22	8	1	w.
Grand Marais.....	Alger.....	610	12	62.4	+0.5	86	15	40	25	26	2.75	-0.35	1.36	0	11	6	16	9	sw.
Houghton.....	Houghton.....	668	12	64.3	-0.7	95	15	46	11	32	2.53	-0.34	1.36	0	11	6	16	9	sw.
Humboldt.....	Marquette.....	1,536	16	64.0*	+4.2	92*	15†	32*	7†	44*	2.12	-0.24	0.48	0	6	19*	0*	11*	sw.
Iron Mountain.....	Dickinson.....	1,111	12	67.9	+3.8	92	15†	41	23	40	1.99	-0.76	1.02	0	6	12	19	3	sw.
Iron River.....	Iron.....	1,504	16	66.2	+3.0	93	15	38	23	30	1.90	-2.14	0.55	0	5	19	9	3	sw.
Ironwood.....	Gogebic.....	1,520	10	66.0	+2.1	97	15	41	28	33	1.91	-0.61	1.74	0	4	21	5	5	sw.
Marquette.....	Marquette.....	1,536	13	64.3b	+1.6	92*	15	39	25	36	1.80	-1.39	0.32	0	13	7	18	6	sw.
Isle Royale.....	Keweenaw.....	610	6								1.60		0	10	5	9	17	sw.	
Mackinac Island.....	Mackinac.....	831	13	65.2	-0.3	87	17	40	25	33	2.64	-1.00	1.03	0	11	5	9	17	sw.
Maple Ridge.....	Delta.....	7	64.6			90	21	38	24	42	1.39		0.42	0	8	13	13	5	sw.
Marquette.....	Marquette.....	734	42	64.2	+0.7	95	15	45	25	34	0.73		0.18	0	10	11	10	3	sw.</

TABLE 1.—*Climatological data for August, 1913. District No. 4—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature in degrees Fahrenheit.				Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.				
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
<i>Michigan—Lower Peninsula—Contd.</i>																				
Aransas.	Macomb.	24	67.4	— 0.8	90	16	41	24 ^b	36	4.71	+ 1.73	2.20	0	6	7	21	3	s.	R. O. Gould.	
Battle Creek.	Calhoun.	822	72.2	+ 1.5	96	16	46	25	35	1.59	+ 1.42	0.60	0	5	14	14	3	sw.	Elmer E. Sager.	
Bay City.	Bay.	593	72.2	+ 3.9	95	18	46	25	32	8.65	+ 5.66	6.81	0	7	19	5	7	ne.	Pere Marquette Railroad.	
Benzonia.	Benzie.	832	67.3	+ 2.7	91	16	37	25	38	1.39	+ 1.48	0.68	0	5	8	23	0	sw.	Wallace Nutting.	
Big Rapids.	Mecosta.	906	70.7	+ 4.3	95	16	37	25	39	3.37	+ 0.68	1.00	0	9	24	5	5	w.	Superintendent Waterworks.	
Blissfield.	Lenawee.	687	1																Harry Watson.	
Bloomingdale.	Van Buren.	9	71.8																John M. Haven.	
Cadillac.	Wexford.	1,293	68.4																Cadillac Water & Light Co.	
Cassopolis.	Cass.	903	12	72.7 ^c	+ 2.9	95 ^e	11 ^f	45 ^g	50 ^h			1.93	0	0	8	13	14	4	sw.	Michigan Central Railroad.
Charlevoix.	Charlevoix.	610	35	67.8	+ 1.5	88	21	42	25	40	1.29	+ 0.62	0.60	0	5	22	6 ⁱ	2 ^j	w.	Pere Marquette Railroad.
Charlotte.	Eaton.	9	70.6																City of Charlotte.	
Cheboygan.	Cheboygan.	611	23	65.2 ^e	+ 0.2	90 ^e	15	35	25	42 ^g	1.80	+ 1.17	0.74	0	5				E. A. Bouchard.	
Clinton.	Clinton.	830	23	73.8	+ 3.7	101	16	44	25	41	0.99	+ 1.55	0.53	0	4	19	3	9	n.e.	David Woodward.
Coldwater.	Branch.	984	16	74.4	+ 3.5	97	16	48	25	35	1.26	+ 2.53	0.48	0	5	20	5	6	s.	L. S. & M. S. R. R.
Croton.	Newaygo.	885	5	70.1		95	16	42	25	35	2.59		0.88	0	9	7	19	5	n.w.	Gr. Rapids Muskegon P. Co.
Detroit.	Wayne.	730	42	72.0	+ 2.1	93	16	51	25	42	2.13	+ 0.64	0.97	0	6	11	16	4	e.	U. S. Weather Bureau.
Durand.	Shiawassee.	789	5	74.3		97	16	42	25	43				0		14	3	14	n.w.	Chief Train Dispatcher.
East Tawas.	Iosco.	590	16	67.2 ^d	+ 1.4	91 ^d	8	40 ^g	27	40 ^g	2.45	+ 0.15	0.90	0	4	19 ^d	8 ^d	0 ^d	Detroit & Mackinaw Ry.	
Eloise.	Wayne.	640	16	71.3	+ 1.1	94	16	42	25	35	1.72	+ 0.59	0.75	0	7	13	16	2	se.	John Gilmore.
Five Channels.	Iosco.	0				95	16				1.78		0.68	0	5	17	12	2	n.w.	Au Sable Electric Co.
Flint.	Genesee.	730	24	68.8	+ 1.1	94	16	44	25	33	5.95	+ 3.38	1.90	0	11	14	8	9	s.	William Fisher.
Frankfort.	Benzie.	589	9	66.7		87	14	48	25	31	1.41		0.65	0	3	12	0	19	s.	Geo. Morency.
Ganges.	Allegan.	665	4	71.4		94	16	47	26	32	0.89		0.38	0	5	14	9	8	sw.	H. H. Hutchins.
Gaylord.	Otsego.	1,367	13	67.5	+ 4.3	91	15	30	25	36	2.31	+ 1.01	0.88	0	8	21	0	10	n.w.	Michigan Central Railroad.
Gladwin.	Gladwin.	794	17																Geo. R. Smith.	
Grand Haven.	Ottawa.	628	24	68.8	+ 1.0	88	20	45	25	31	1.18	+ 1.40	0.31	0	11	15	12	4	e.	U. S. Weather Bureau.
Grand Rapids.	Kent.	707	24	72.5	+ 2.5	99	16	47	25	33	0.97	+ 1.62	0.51	0	9	11	15	5	e.	Do.
Grape.	Monroe.	825	23	72.4	+ 2.3	97	16	47	25	37	1.33	+ 1.29	0.51	0	8	18	13	0		Joseph W. Morris.
Grass Lake.	Jackson.	989	7	71.6		100	16	47	26	35	0.75	+ 1.02	0.52	0	6	23	3	5	n.w.	Menzo Conklin.
Grayling.	Crawford.	1,147	23			94	16				1.83		0.50	0	10					S. N. Insley.
Greenville.	Montcalm.	802	1	70.5 ^b		97 ^b	15	43 ^b	24	37 ^b	3.51		0.56	0	10					Pere Marquette Railroad.
Harbor Beach.	Huron.	635	25	69.0	+ 2.6	97	16	43	25	32	1.53	+ 1.09	1.10	0	5	25	5	1	ne.	Do.
Harrison.	Clare.	1,159	20	68.0 ^b	+ 2.4	94 ^b	16	41 ^b	25	38 ^b	2.88	+ 0.73	2.42	0	2	16 ^b	7 ^b	6 ^b	sw.	D. W. Mitchell.
Harrisville.	Alcona.	616	29	66.6	+ 1.3	93	8	40	29	37	1.54	+ 1.98	0.58	0	7	9	18	4	sw.	Pere Marquette Railroad.
Hart.	Oceana.	698	21	73.4	+ 6.8	94	16	55	25	32	1.77	+ 0.63	0.80	0	3	23	8	1	sw.	Do.
Hayes.	Huron.	820	23	68.6 ^c	+ 2.3	97 ^c	16	48 ^c	25	35	1.42	+ 1.24	1.30	0	2	11 ^c	14 ^c	1 ^c	w.	C. F. Leipprandt.
Highland.	Oakland.	1,006	21								2.83	+ 0.05	1.14	0	6				A. D. De Garmo.	
Hillsdale.	Hillsdale.	1,150	16	72.2 ^a	+ 3.3	97 ^a	16	46 ^a	5	38 ^a	2.83	+ 0.40	1.30	0	6	19 ^a	7 ^a	4 ^a	sw.	C. L. Herron.
Holland.	Ottawa.	610	7	71.4		93	16	41	25	39	0.39		0.13	0	3	14	14	3	se.	City of Holland.
Houghton Lake.	Rosecommon.	0		67.0		93	16	41	25	31	2.13		0.83	0	5	12	10	9	n.	James H. Ostrander.
Howell.	Livingston.	924	21	70.7	+ 2.8	95	16	44	25	33	1.61	+ 0.99	0.90	0	9	10 ^a	7 ^a	13 ^a	sw.	Frank Sharp.
Ivan.	Kalkaska.	927	16	68.2	+ 3.0	95	16	32	25	43	1.43	+ 1.68	0.59	0	7	8	23	0	sw.	O. L. Giddings.
Jackson.	Jackson.	927	16	72.8 ^a	+ 2.0	101 ^a	16	43 ^a	25	39 ^a	1.45	+ 0.87	0.62	0	9	20 ^a	7 ^a	3 ^a	ne.	City of Jackson.
Jeddo.	St. Clair.	667	24	69.4	+ 1.5	93	16	44	25	35	0.69	+ 3.32	2.31	0	7	17	8	6	sw.	William Bice.
Johannesburg.	Osceola.	955	37	71.8	+ 1.9	96	16	45	25	38	0.90	+ 1.32	0.50	0	3	14	14	3	sw.	Axel Becker.
Kalamazoo.	Kalamazoo.	853	47	69.4	+ 1.0	96	16	44	5	37	5.60	+ 2.97	1.82	0	14	11	8	se.	Kalamazoo Asylum.	
Lansing (Agr. College).	Ingham.	803	49	69.4	+ 1.0	96	16	44	5	37	5.60	+ 0.99	0.90	0	14	11	8	se.	U. S. Weather Bureau.	
Lansing (capitol).	do.	881	26	69.8	+ 1.3	96	16	45	25	35	4.03	+ 1.18	1.65	0	14	13	11	7	se.	State Board of Health.
Lapeer.	Isabella.	827	14	69.7	+ 2.8	95	16	42	25	36	4.32	+ 1.90	1.82	0	7	6	22	3	sw.	Michigan Home.
Ludington.	Mason.	637	15	66.8	- 0.8	86	18	41	25	31	2.86	+ 0.65	2.35	0	10	8	19	4	s.	U. S. Weather Bureau.
Luther.	Lake.	1,028	3																John W. Nicholson.	
Mackinaw.	Cheboygan.	592	22	63.2	- 1.4	86	16	40	25	32	3.04	+ 0.24	1.00	0	5	18	12	1	se.	Grand Rapids & Indiana Ry.
Mancelona.	Antrim.	1,121	17	65.3	+ 0.8	93	17	36	25	30	5.01	+ 0.38	0.76	0	5	18	0	13	n.w.	Do.
Manistee.	Manistee.	600	16	69.7 ^c	+ 4.7	90 ^c	18	53 ^c	5	24 ^c	3.90	+ 1.56	2.43	0	8	21 ^c	0 ^c	7 ^c	sw.	Postmaster.
Marshall.	Calhoun.	896	1	73.6 ^c										0	22 ^c	0 ^c	4 ^c	sw.	E. B. Stuart.	
Midland.	Midland.	604	14	70.2	+ 1.3	98	18	40	25	35				0	8	14	9	6	w.	Pere Marquette Railroad.
Morenci.	Lenawee.	811	6	72.8		98	97	46	24	38	0.89		0.38	0	6	19	6	6	sw.	George J. Tripp.
Mount Clemens.	Macomb.	615	13	70.4	+ 0.7	94	16	46	25	33	3.35	+ 1.21	1.62	0	4	14	5	12	e.	Waterworks.
Mount Pleasant.	Isabella.	826	14	71.0	+ 3.8	93	5	45	5	53 ^a	2.59	+ 3.15	2.42	0	5				sw.	Pere Marquette Railroad.
Muskegon.	Muskegon.	587	17																Grand Rapids & Indiana Ry.	
Old Mission.	Grand Traverse.	858	19	68.0	+ 0.9	94	15	41	6	40	2.49	+ 0.55	0.84	0	7	9 ^a	20 ^a	1 ^a	sw.	E. O. Ladd.
Olivet.	Eaton.	934	23	71.2	+ 3.2	97	16	46	5	37	2.81	+ 2.03	0.47	0	7	20	5	6	ne.	G. A. Knapp.
Omer.	Arenac.	616	14	70.0	+ 5.2	99	17	38	25	41	0.51	+ 0.91	1.00	0	4	21	10	1	w.	Detroit & Mackinaw Ry.
Onaway.	Presque Isle.	826	10	67.4	+ 4.2	95	16	35	25	42	1.75	+ 1.63	0.90	0	4	21	1	9	s.	Do.
Owosso.	Shiawassee.	731	16	71.2 ^a	+ 1.2	99 ^a	16	42 ^a	5	41 ^a	4.47	+ 2.16	1.35	0	11	6 ^a	21 ^a	3 ^a	n.w.	Owosso Sugar Co.
Petroskey.	Emmet.	660	23																Grand Rapids & Indiana Ry.	
Plymouth.	Wayne.	725	16	72.8	+ 2.7	98	16	44	25	35	1.									

TABLE 1.—*Climatological data for August, 1913. District No. 4—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.			Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.			Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days.		
					Highest.	Date.	Lowest.					Total.	Greatest in 24 hours.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.			
Ohio—Continued.																			
Conneaut.	Ashland.	675	3	70.1	+ 1.7	98	17	46	25	33	2.74	- 0.33	1.14	0	5	15	nw.	E. L. Ransom.	
Findlay.	Hancock.	776	24	73.6	+ 1.7	98	16	45	25	38	2.38	- 0.34	1.46	0	6	24	s.	Dr. E. A. Moser.	
Fremont.	Sandusky.	628	11	73.4	+ 2.1	95	16	51	25	33	2.82	- 0.84	1.13	0	7	25	s.	E. Stanley Thomas.	
Hedges.	Paulding.	725	19	74.0*	+ 3.2	97	1	46	24	39	1.44	- 1.41	0.60	0	4	28	s.	Charles Stutzman.	
Hillhouse.	Lake.	907	20	68.8	+ 1.5	91	15†	42	25	31	3.71	- 0.30	2.00	0	5	19	nw.	J. W. Doncaster.	
Hiram.	Portage.	1,260	33	71.2	+ 2.3	95	17	46	25	31	2.72	- 0.51	1.56	0	6	21	s.	Prof. G. H. Colton.	
Hudson.	Summit.	1,123	52	74.3	+ 4.6	100	16	49	25	39	1.91	- 1.65	0.78	0	7	9	s.	Dr. W. I. Chamberlain.	
Lima.	Allen.	875	14	73.0	+ 1.5	94	17	49	30	35	3.29	+ 0.29	1.36	0	4	15	ne.	Miss Ollie DeLong.	
Medina.	Medina.	944	25	72.4	+ 1.7	98	17	43	25	40	1.75	- 1.41	0.56	0	7	21	nw.	F. W. Clark.	
Montpelier.	Williams.	880	21	73.4	+ 3.4	97	16	50	5†	36	3.06	+ 0.24	1.20	0	9	18	w.	G. L. Laser.	
Napoleon.	Henry.	680	26	74.5	+ 3.5	96	13	50	5	43	2.44	- 0.19	1.61	0	5	25	nw.	A. C. Senter.	
New Bremen.	Auglaize.	1,038	20	73.6	+ 1.2	94	28	50	25†	33	3.29	+ 0.61	1.93	0	7	10	nw.	Miss Lillian Grothaus.	
North Royalton.	Cuyahoga.	1,000	20	72.4	+ 2.1	94	16	48	25	33	2.17	- 1.62	1.02	0	5	22	w.	W. S. Edgerton.	
Norwalk.	Huron.	719	27	74.0	+ 3.5	94	17†	47*	5†	42*	1.43	- 1.68	0.85	0	10	11	sw.	Giles R. Gregory.	
Uberlin.	Lorain.	856	33	74.8*	+ 5.3	97	16	47	25	35	2.54	- 0.23	1.03	0	6	18	n.	Prof. F. F. Jewett.	
Ottawa.	Putnam.	720	20	72.4	+ 0.3	94	16	42	25	32	5.57	+ 2.80	3.47	0	6	12	se.	Prof. J. T. Maidlow.	
Sandusky.	Erie.	629	36	73.0	+ 1.5	93	9	55	24	31	5.42	+ 2.05	2.27	0	8	11	e.	U. S. Weather Bureau.	
Tiffin.	Seneca.	775	31	72.6	+ 1.6	94	17	52	25	26	1.12	- 1.55	0.48	0	4	23	n.	Prof. T. H. Sonnedecker.	
Toledo.	Lucas.	769	42	73.1	+ 2.2	93	9	54	5	28	0.96	- 1.74	0.43	0	6	18	sw.	U. S. Weather Bureau.	
Upper Sandusky.	Wyandot.	854	30	72.6	+ 1.6	95	10†	49	24†	36	2.97	+ 0.11	1.20	0	4	5	nw.	Robert E. Tracht.	
Vickery.	Sandusky.	588	20	73.0	+ 1.9	94	16	48	5	36	3.92	+ 0.98	0.82	0	10	12	ne.	John W. Barr.	
Wapakoneta.	Auglaize.	898	1	74.1	+ 2.8	94	28	50	25†	31	2.20	- 1.08	0	0	3	16	nw.	Dr. William Kaysen.	
Wauseon.	Fulton.	750	41	72.6	+ 2.3	96	9†	47	5	38	3.00	+ 0.20	1.31	0	6	15	ne.	Thomas Mikesell.	
Wickliffe.	Lake.	740	1								1.89		1.44	0	3	18	n.	C. M. Richardson.	
Pennsylvania.																			
Erie.	Erie.	658	40	69.8	- 0.1	87	17	51	25	21	2.66	- 0.60	1.16	0	9	14	11	s.	U. S. Weather Bureau.
New York.																			
Adams Center.	Jefferson.	540	22	69.7	+ 0.9	93	18	40	25	32	2.45	- 0.33	0.55	0	8	20	1	sw.	A. E. Cooley.
Angelica.	Allegany.	1,340	30	64.0	- 0.9	92	17	34	25	44	1.68	- 2.39	0.72	0	10	9	11	w.	C. P. Arnold.
Appleton.	Niagara.	270	22	68.1	+ 0.7	94	16	42	25	33	3.59	+ 0.92	1.43	0	7	20	8	sw.	H. A. Van Wagoner.
Auburn.	Cayuga.	715	44	69.7	+ 0.9	90	18	47	11	31	2.85	- 0.47	1.63	0	8	13	8	n.	J. W. Ackerman.
Avon.	Livingston.	585	18	68.1	+ 0.6	88	16	36	25	38	2.79	- 0.35	1.50	0	7	18	7	sw.	W. G. Markham.
Brockport.	Monroe.	537	17	67.8	- 0.9	94	16	38	25	37	3.88	+ 1.29	2.02	0	10	17	7	n.	C. O. Beaman.
Buffalo.	Erie.	767	62	68.6	- 0.2	90	18	45	25	30	3.26	+ 0.27	1.03	0	8	11	12	sw.	U. S. Weather Bureau.
Canisius College.	do.	0																Do.	
Canton.	St. Lawrence.	448	19	65.8	- 0.8	94	17	39	25	37	2.91	+ 0.22	0.90	0	11	8	16	sw.	J. H. Grapotte.
Cape Vincent.	Jefferson.	246	8	68.0	- 0.8	86	18	47	25	33	1.94	- 1.07	0.69	0	4	18	8	s.	W. R. North.
Chazy.	Clinton.	151	13					42	12†		1.07	- 1.73	0.48	0	5	13	1	w.	Charles Peterson.
Chestnut Lawn.	Wyoming.	1,000	1	67.6		94	16†	40	25	42	2.15		0.41	0	11	17	9	sw.	Dr. D. L. Van Derzee.
Dadememora.	Clinton.	1,490	8	68.2		85	87	41	24	34	1.76		0.50	0	10	18	7	w.	Joseph S. Wilford.
Eiba.	Genesee.	500	14	66.0	- 1.1	90	17	39	25	41	5.47	+ 3.27	3.00	0	8	22	3	sw.	Dana H. Wells.
Fayetteville.	Onondaga.	530	12	71.2	+ 2.6	98	16	38	25	40	2.80	- 0.90	1.54	0	10	20	10	sw.	Gabriel's Sanitarium.
Gabriels.	Franklin.	1,729	11	61.1		89	17	35	25	40	2.52		0.87	0	8	17	10	w.	Agr. Exp. Station.
Geneva.	Ontario.	550	0	70.0		98	17	44	25†	39	1.65		1.13	0	8	29	1	w.	J. W. Harkness.
Harkness.	Clinton.	622	11	66.0	+ 0.4	91	16	40	25	37	1.15	- 1.07	0.46	0	8	19	8	sw.	B. P. McGrady.
Hemlock Lake.	Livingston.	900	15	68.3	+ 0.2	90	17	42	25	34	2.74	- 0.05	1.06	0	10	19	8	sw.	W. S. Barager.
Hunt.	do.	1,321	14	68.4	+ 0.9	95	16†	42	25	38	1.34	- 1.44	0.32	0	7	19	8	sw.	U. S. Weather Bureau.
Ithaca.	Tompkins.	928	35	69.6	+ 1.4	96	16	45	25	36	1.50	- 1.32	0.78	0	10	14	12	sw.	E. R. Wells.
Keene Valley.	Essex.	1,000	15	65.6	+ 1.4	96	17†	36	26	50	1.06	- 2.57	0.17	0	9	17	11	sw.	L. A. Goodyear.
King Ferry.	Cayuga.	13																s.	Charles Forsell.
Lake George.	Warren.	350	16	68.2	+ 0.5	94	17	40	26	44	2.27	- 1.85	0.68	0	9	14	16	sw.	H. Van Hoevenberg.
Lake Placid Club.	Essex.	1,864	5	56.4		80	17	34	11†	38	1.57		0.45	0	11	16	11	w.	J. O. Howard.
Lauterbrunnen.	Wyoming.	1,260	1	68.2		95	16†	41	25	44	2.09		0.43	0	11	14	15	sw.	R. N. Clark.
Lockport.	Niagara.	520	26	68.0	- 0.4	90	17	43	25	30	4.63	+ 1.50	1.33	0	7	16	9	sw.	W. M. Clark.
Lowville.	Lewis.	900	46	66.5	+ 1.6	90	17	40	25	37	1.24	- 1.98	0.29	0	11	18	2	sw.	Wm. A. Bartlett.
Moirs.	Franklin.	1,260	1	68.2		95	16†	41	25	44	2.09		0.43	0	11	16	11	w.	W. H. Jeffers.
Nehasane.	Franklin.	200	13	66.0	- 0.3	94	17	36	25	39	2.57	- 1.92	0.59	0	8	12	10	sw.	E. D. Babcock.
North Lake.	Hamilton.	1,750	5	61.4		91	17	36	25	39	1.42	- 2.07	0.36	0	11	16	14	sw.	A. E. Sutherland.
Ogdensburg.	Herkimer.	1,822	12	64.4		91	17	39	27	36	2.94	- 0.90	0.64	0	9	24	2	sw.	Prof. R. P. Prichard.
Old Forge.	St. Lawrence.	175	29	67.2	- 0.3	93	17	42	25	39	2.06	- 0.96	0.64	0	8	7	22	s.	R. J. Dunning.
Oswego.	Herkimer.	1,723	5	61.8		92	18	33	25†	42	2.23	- 0.53	0.53	0	10	15	12	sw.	L. W. Brown.
Otto.	Cattaraugus.	335	47	67.4	- 1.4	90	16	50	25	29	1.12	- 1.57	0.48	0	8	13	9	sw.	J. F. Redmond.
Palermo.	Oswego.	460	54															s.	Mrs. S. W. Nelson.
Perry City.	Franklin.	1,038	33	65.3	- 0.8	93	16	37	20	46	1.45	- 1.06	0.55	0	10	23	2	sw.	U. S. Weather Bureau.
Philadelphia.	Schuyler.	485	7	67.8		92	17	40	25	39	2.65		0.74	0	10	8	18	w.	John H. Coryell.
Potsdam.	St. Lawrence.	300	37	67.6	+ 1.2	94	18	40	25	39	2.85	- 0.55	0.90	0	8	13	13	sw.	C. H. Latting.
Ranger School.	do.	1,750	0	63.5		94	17	35	25	37	2.48		0.64	0	11	15	9	sw.	John Durkan.
Raquette Lake.	Hamilton.	1,776	5	62.4		90	18	37	26	39	1.84		0.68	0</					

TABLE 2.—*Daily precipitation for August, 1913. District No. 4, Lake Region.*

TABLE 2.—*Daily precipitation for August, 1913. District No. 4—Continued.*

Stations.	Watershed.	Day of month.																														Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>Michigan—Lower Peninsula—Con.</i>																																		
Benzonia.....	Betsey	.59	.05	T.	.05	.05	.05	.05	.68	.43	T.	T.	T.	T.	T.	.20	1.00			.02		T.		T.	T.	.12						1.39		
Big Rapids.....	Muskegon	.40	.20																															3.37
Blissfield.....	Raisin																																	1.89
Bloomingdale.....	L. Michigan	.20																																0.91
Cadillac.....	Manistee	.35																																2.93
Cassopolis.....	St. Joseph																																	1.29
Charlevoix.....	L. Michigan																																	0.93
Charlotte.....	Kalamazoo	.10																																0.89
Cheboygan.....	Cheboygan	.74																																0.99
Clinton.....	Raisin																																	1.26
Coldwater.....	St. Joseph																																	2.59
Croton.....	Muskegon	.10	.28																														2.13	
Detroit.....	Detroit	.26																																1.33
Durand.....	Saginaw																																	2.13
East Tawas.....	Lake Huron	.60																																2.45
Eloise.....	Rouge	.02																																1.72
Five Channels.....	Au Sable	.40																																1.78
Flint.....	Saginaw	.12	.50																														5.95	
Frankfort.....	Betsey	.61																																1.41
Ganges.....	L. Michigan	.37	.19																														0.89	
Gaylord.....	Cheboygan																																2.31	
Grand Haven.....	Grand																																3.51	
Grand Rapids.....	do	.07																															0.97	
Grapse.....	Raisin	.02																															1.33	
Grass Lake.....	Grand																																0.75	
Grayling.....	Au Sable	.52	.48																														1.83	
Greenville.....	Grand	.25	.25																														3.51	
Harbor Beach.....	Lake Huron																																1.53	
Harrison.....	Saginaw																																2.88	
Harrisville.....	Lake Huron	.04	.04																														1.54	
Hart.....	Pentwater																																1.77	
Hayes.....	Pigeon																																1.42	
Highland.....	Huron																																2.83	
Hillsdale.....	St. Joseph	1.00	.39																														2.93	
Holland.....	L. Michigan	.07																															0.39	
Houghton Lake.....	Au Sable	.46																															2.13	
Howell.....	Saginaw	.05																															3.61	
Ivan.....	Manistee	.10	.59																														1.68	
Jackson.....	Grand	.15																															1.45	
Judd.....	St. Clair																																6.09	
Johannesburg.....	Cheboygan	.70	.18																														2.19	
Kalamazoo.....	Kalamazoo																																0.90	
Lansing (Agri. Col.).....	Grand	.06	.01																														5.60	
Lansing (capitol).....	do	.16	.06	.03																													4.03	
Lapeer.....	Saginaw																																4.32	
Ludington.....	Pere Marq'te	.16	.07	T.	T.	.63	.53	.01																							2.86			
Luther.....	Manistee																																3.04	
Mackinaw.....	Lake Huron	.20																															1.85	
Mancelona.....	L. Michigan	.15																															0.90	
Manistee.....	Manistee	.59																															3.90	
Marshall.....	Kalamazoo																																3.35	
Midland.....	Saginaw	.06	.24																														5.29	
Morenci.....	Maumee	.06																															0.89	
Mount Clemens.....	Clinton	.08																															3.35	
Mount Pleasant.....	Saginaw	.17																															5.29	
Muskegon.....	Muskegon																																2.49	
Old Mission.....	L. Michigan	.06	.62																														1.30	
Olivet.....	Kalamazoo																																1.21	
Omer.....	Lake Huron	.10																															1.75	
Onaway.....	Cheboygan	.90																															0.90	
Owosso.....	Saginaw	.18	.14																														4.47	
Petoskey.....	L. Michigan																																1.37	
Plymouth.....	Rouge																																2.52	
Pontiac.....	Clinton</																																	

TABLE 2.—*Daily precipitation for August, 1913. District No. 4—Continued.*

* Precipitation included in that of the next measurement.

‡ Separate dates of falls not recorded.

Precipitation for the 24 hours ending on the morning when it is measured.
Precipitation is less than 0.01 inch rain or melted snow.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—Maximum and minimum temperatures at selected stations for August, 1913. District No. 4, Lake Region.

Date.	Duluth, Minn.		Wisconsin.						Chicago, Ill.		Fort Wayne, Ind.		Upper Michigan.								Lower Michigan.								
			Florence.		Green Bay.		Milwaukee.						Escanaba.		Ewen.		Houghton.		Marquette.		Sault Ste. Marie.		Alpena.		Battle Creek.		Cadillac.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
1....	80	57	77	53	82	58	85	63	79	67	82	65	60	54	78	52	79	61	77	59	74	52	81	54	82	60	78	70	
2....	84	59	83	57	86	61	84	65	80	70	85	64	86	59	80	44	80	64	79	64	77	53	85	54	86	57	81	57	
3....	74	55	76	59	77	62	87	66	95	70	88	61	72	53	82	52	71	56	65	55	71	53	74	59	80	54	72	52	
4....	78	50	77	42	75	54	72	57	72	67	81	60	71	51	81	54	76	51	74	53	70	47	70	54	85	50	74	53	
5....	76	60	75	55	77	54	80	60	86	64	82	56	70	56	79	57	75	59	81	60	70	51	75	49	85	50	74	53	
6....	61	49	69	55	69	59	72	63	74	66	80	68	66	51	71	50	62	48	61	48	72	58	70	58	83	62	79	62	
7....	60	48	78	39	79	55	74	61	83	67	86	68	69	51	80	37	72	46	75	53	69	65	90	65	83	68	77	61	
8....	75	60	79	61	83	64	91	67	94	70	86	78	80	64	78	54	75	65	78	63	76	62	91	65	86	68	82	64	
9....	74	57	85	53	83	62	75	67	97	79	90	74	76	60	84	53	76	53	58	79	58	68	51	84	56	82	73	76	
10....	57	48	71	50	71	58	71	62	82	68	84	65	67	51	80	44	62	47	58	48	68	67	56	56	82	66	89	73	
11....	51	48	69	39	65	54	65	62	69	63	68	61	64	50	67	32	63	46	68	47	67	47	64	55	73	56	68	49	
12....	72	51	78	55	72	60	74	64	72	66	82	68	68	59	85	56	74	59	72	57	72	52	69	52	84	60	76	55	
13....	68	56	82	53	79	60	75	65	78	68	84	65	70	58	81	59	76	59	73	60	78	54	71	52	88	66	82	53	
14....	64	55	87	61	89	63	83	67	86	72	83	72	75	64	90	62	86	63	76	65	83	60	74	57	86	66	86	55	
15....	78	55	91	64	90	69	86	77	87	77	89	76	76	67	96	60	95	63	95	68	93	63	83	66	89	70	88	67	
16....	80	61	84	66	86	73	92	72	93	78	94	70	83	69	88	60	85	67	76	65	84	64	86	67	96	69	93	71	
17....	74	64	81	64	80	69	86	70	82	74	93	73	84	64	88	61	82	62	73	63	79	61	84	64	89	70	89	70	
18....	67	52	77	57	74	64	78	68	79	72	88	72	79	61	82	54	87	57	64	57	81	60	83	63	83	66	76	57	
19....	58	53	79	57	76	67	77	68	78	71	81	67	72	62	83	61	72	55	78	57	74	55	80	66	84	64	78	61	
20....	63	53	73	57	78	63	75	68	77	71	88	62	71	64	80	61	87	62	71	68	72	55	70	64	82	57	81	59	
21....	77	55	85	56	85	61	88	77	73	85	88	68	86	59	81	60	78	59	84	62	80	60	87	59	82	62	84	69	80
22....	73	57	72	53	70	60	82	63	76	63	88	68	70	50	84	48	72	49	69	61	75	57	71	52	85	65	76	55	81
23....	77	55	75	42	75	51	72	56	70	60	72	58	75	50	80	40	72	49	69	61	75	57	71	52	85	65	76	55	81
24....	60	51	67	44	65	51	66	59	70	62	78	53	59	48	70	45	75	57	64	57	60	55	72	45	80	52	71	51	
25....	81	50	80	43	83	51	84	61	85	63	81	73	73	48	82	45	79	49	75	57	64	41	72	41	80	46	71	41	
26....	74	55	76	53	79	61	82	67	89	67	86	63	77	58	73	50	69	57	73	57	65	52	78	58	86	56	76	61	
27....	65	52	75	47	73	56	70	61	74	67	82	60	68	50	77	48	65	49	59	53	66	54	88	52	74	52	84	49	
28....	69	52	71	54	79	57	81	64	81	67	89	60	74	53	82	40	72	49	64	56	65	53	83	62	76	58	84	44	
29....	71	49	62	51	70	54	74	59	76	60	75	58	64	52	65	43	62	56	63	56	65	51	71	57	84	57	75	57	
30....	69	49	73	46	74	52	76	60	75	60	77	53	70	52	70	45	69	54	64	56	65	51	70	54	78	50	71	54	
31....	72	55	80	52	73	60	73	63	80	65	81	56	72	56	72	40	78	57	79	60	84	54	80	52	79	55	70	56	
Mns.	70.4	53.9	77.0	53.0	77.5	59.3	78.2	63.9	80.8	67.8	83.0	62.9	72.7	56.1	78.3	50.6	72.8	55.8	71.8	56.5	72.5	53.8	74.3	56.9	84.5	59.9	77.9	59.0	
Lower Michigan.			Ohio.						Erie, Pa.						New York.						Vermont.								
Date.	Detroit.		Muskegon.		Saginaw, west side.		Cleveland.		Lima.		Sandusky.		Toledo.		Buffalo.		Canton.		Rochester.		Syracuse.		Burling- ton.		North- field.				
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.			
1....	83	65	73	-53	82	59	77	70	83	68	79	68	82	68	79	72	81	70	86	61	81	67	83	68	80	64	78	59	
2....	85	63	77	50	85	57	79	61	87	55	81	62	83	65	81	65	84	57	83	59	82	64	84	64	80	55	81	51	
3....	83	63	75	55	82	59	69	59	81	63	88	63	88	63	89	61	82	58	82	62	84	59	81	64	80	51	82	48	
4....	77	56	78	67	71	53	72	65	80	61	76	66	76	75	79	54	71	64	72	53	71	59	71	64	72	57	84	47	
5....	79	52	72	53	77	49	76	56	83	51	79	58	70	54	73	55	73	55	77	51	77	57	77	56	81	42	82	42	
6....	85	66	71	62	81	60	79	61	82	63	83	63	86	65	77	62	77	55	78	57	81	62	78	59	85	47	87	47	
7....	84	64	77	60	85	62	82	63	88	63	88	63	83	65	81	60	76	53	77	57	84	64	76	54	89	49	87	49	
8....	85	70	85	65	90	68	82	68	86	66	87	68	87	67	84	69	80	67	89	52	86	65	88	64	86	52	84	44	
9....	90	69	79	68	86	63	90	70	92	67	93	73	93	75	94	76	92	65	94	69	98	73	90	69	98	68	98	58	
10....	81	61	72	55	71	56	86	67	88	72	88	65	87	62	82	66	83	66	87	77	52	86	77	95	55	81	49		
11....	69	57	72	54	71	53	71	62	72	65	70	66	69	61	76	55	88	63	72	40	67	56	88	50	70	49	88	42	
12....																													